

BILL NO. 2002-107

ORDINANCE NO. 5527

AN ORDINANCE TO ADOPT THE 2002 EDITION OF THE NATIONAL ELECTRICAL CODE, TOGETHER WITH AMENDMENTS AND SUPPLEMENTARY MATERIAL, AND TO PROVIDE FOR OTHER RELATED MATTERS.

Proposed by: Paul K. Wilkins,
Director of Building and Safety

Summary: Adopts the 2002 Edition of the
National Electrical Code, together with
amendments and supplementary material.

THE CITY COUNCIL OF THE CITY OF LAS VEGAS DOES HEREBY ORDAIN
AS FOLLOWS:

SECTION 1: Title 16, Chapter 12, Section 10 of the Municipal Code of the City of
Las Vegas, Nevada, 1983 Edition, is hereby amended to read as follows:

16.12.010: Those certain documents, three copies of which are on file in the Office of the City
Clerk, and being marked and designated as follows, are adopted by reference as and for the City's
Electrical Code:

(A) National Electrical Code, [1999] 2002 Edition, hereby designated as Part 1 of
this Chapter;

(B) A document entitled "A Supplemental Document Amending the National
Electrical Code, [1999] 2002 Edition," deleting from and adding to the National Electrical Code,
[1999] 2002 Edition, hereby designated as Part 2 of this Chapter; and

(C) The Southern Nevada Amendments to the [1999] 2002 National Electrical
Code, hereby designated as Part 3 of this Chapter.

SECTION 2: The document entitled the "Southern Nevada Amendments to the 2002
National Electrical Code" is modified as set forth in Section 3 of this Ordinance.

SECTION 3: Where necessary for the sake of consistency, references in the Southern
Nevada Amendments to the 2002 National Electrical Code to "Article" numbers shall be deemed to
refer to "Section" numbers as contemplated in the National Electrical Code.

SECTION 4: The National Electrical Code, 1999 Edition, the supplemental document
amending that edition, and the Southern Nevada 1999 Electrical Code Amendments, are hereby

032461



1 repealed in their entirety.

2 SECTION 5: If any section, subsection, subdivision, paragraph, sentence, clause or
3 phrase in this ordinance or any part thereof, is for any reason held to be unconstitutional, or invalid
4 or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or
5 effectiveness of the remaining portions of this ordinance or any part thereof. The City Council of the
6 City of Las Vegas hereby declares that it would have passed each section, subsection, subdivision,
7 paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more sections,
8 subsections, subdivisions, paragraphs, sentences, clauses or phrases be declared unconstitutional,
9 invalid or ineffective.

10 SECTION 6: Whenever in this ordinance any act is prohibited or is made or declared
11 to be unlawful or an offense or a misdemeanor, or whenever in this ordinance the doing of any act is
12 required or the failure to do any act is made or declared to be unlawful or an offense or a
13 misdemeanor, the doing of such prohibited act or the failure to do any such required act shall
14 constitute a misdemeanor and upon conviction thereof, shall be punished by a fine of not more than
15 \$1,000.00 or by imprisonment for a term of not more than six months, or by any combination of such
16 fine and imprisonment. Any day of any violation of this ordinance shall constitute a separate offense.

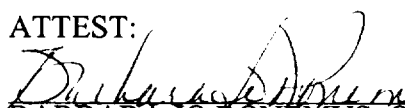
17 SECTION 7: All ordinances or parts of ordinances or sections, subsections, phrases,
18 sentences, clauses or paragraphs contained in the Municipal Code of the City of Las Vegas, Nevada,
19 1983 Edition, in conflict herewith are hereby repealed.

20 PASSED, ADOPTED and APPROVED this 6th day of November, 2002.

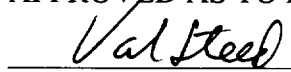
21 APPROVED:

22 By 
23 OSCAR B. GOODMAN, Mayor

24 ATTEST:

25 
26 BARBARA JO RONEMUS, City Clerk

27 APPROVED AS TO FORM:

28  9-19-02
Date

1 The above and foregoing ordinance was first proposed and read by title to the City Council on the
2 2nd day of October, 2002, and referred to a committee for recommendation; thereafter the
3 committee reported favorably on said ordinance on the 6th day of November, 2002, which was a
4 regular meeting of said Council; that at said regular meeting, the proposed ordinance was read by
5 title to the City Council as first read and adopted by the following vote:

6 VOTING "AYE": Mayor Goodman, Councilmembers Reese, M. McDonald, Brown, Weekly
and Mack

7 VOTING "NAY": None

8 EXCUSED: L. B. McDonald

9 ABSTAINED: None

10 APPROVED:

11 
12 _____
OSCAR B. GOODMAN, Mayor

13 ATTEST:

14 
15 _____
BARBARA JO RONEMUS, City Clerk

**A SUPPLEMENTAL DOCUMENT AMENDING
THE NATIONAL ELECTRICAL CODE, 2002 EDITION**

Section 1: Certain provisions of the National Electrical Code, 2002 Edition, are hereby amended, deleted or added to as set forth in this Supplemental Document. Except as otherwise indicated, all section and chapter references contained in this Supplemental Document are to the National Electrical Code, 2002 Edition.

Section 2: Chapter 1 of the National Electrical Code, 2002 Edition, is hereby amended by adding thereto a new article designated as Article 120, reading as follows:

Article 120 - ADMINISTRATION

Section 120-1. ABBREVIATIONS AND DEFINITIONS. For the purpose of this Code, as adopted and amended by the City, certain terms, phrases, words and their derivatives shall be construed as specified in this section. Where terms are within the context with which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, Copyright 1981, shall be considered as providing ordinarily accepted meanings. Words used in the singular include the plural and the plural the singular. Words used in the masculine gender include the feminine and the feminine the masculine.

"APPROVED" - As to materials, equipment or method of construction, refers to approval by the Building Official as the result of investigation and tests by recognized authorities, technical or scientific organizations. Unless otherwise stated, a current listing of a product by the Underwriter's Laboratories (UL) or other testing agency approved by the Building Official shall be considered as an approval of that product.

"AWG" - American Wire Gauge; a standard of conductor measure.

"BUILDING OFFICIAL" - The officer or employee of the City who is charged with the administration and enforcement of the building and technical codes; or the Authority Having Jurisdiction as specified in the National Electrical Code. Except as otherwise provided, the term includes a designated representative of the Building Official who is duly authorized with respect to a particular act or responsibility.

"CITY ELECTRICAL INSPECTOR" - One or more of the electrical inspectors employed by the City.

"FIRE ASSEMBLY AND FIRE RESISTIVE CONSTRUCTION" - As defined in Chapter 4 of the UBC.

"LISTED, LABELED, and LISTING" - Refer to equipment and materials which are shown in a list published by an approved testing agency, qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current productions and whose listing states that the equipment complies with recognized safety standards.

"MASTER" - A generic term including Master Electricians, Master Neon Electricians and Master Technicians certified as such by Clark County before July 1, 1985 as well as individuals who have passed the appropriate examination(s) of the State of Nevada Contractor's Board subsequent to July 1, 1985 and otherwise met the qualifications of and been accepted by the State of Nevada Contractor's Board as Qualified Individuals for the full extent of Category C-2 Electrical Contractor after July 1, 1985.

"MASTER NEON ELECTRICIAN" - A person capable of laying out, installing and supervising electrical and gas-tube sign fabrication and erection who was certified as such by Clark County before July 1, 1985.

"MASTER TECHNICIAN" - A person capable of laying out and supervising commercial sound, radio, television, and low voltage control systems involving solid state devices or electronic tubes who was certified as such by Clark County before July 1, 1985.

"OCCUPANCY" - The purpose for which a building, or part thereof, is used or intended to be used.

"QUALIFIED INDIVIDUAL/QI" - For the purposes of this ordinance, an individual who has passed an appropriate examination(s) of the State of Nevada Contractor's Board subsequent to July 1, 1985 and otherwise met the qualifications of and been accepted by the State of Nevada Contractor's Board as a Qualified Individual in one or more of the subcategories of electrical contracting after July 1, 1985.

"UBC" - Uniform Building Code, adopted as the Building Code of the City of Las Vegas.

"UL" - Underwriters' Laboratories, Inc.

"UNIT" - One home, apartment building, store, warehouse, hall auditorium, condominium unit or hotel. Each interior remodel for single occupancy of a store or warehouse shall establish a new unit.

Section 120-2. AUTHORITY AND ENFORCEMENT

I. Administration. The purpose of this Code is to provide requirements for installation of electric wiring devices, appliances, and equipment within the City of Las Vegas. The provisions of this Code are intended to be used in conjunction with the Uniform Administrative Code adopted by the City of Las Vegas (the "UAC") and other appropriate codes and ordinances. Several provisions of this Code are parallel or similar to provisions of the UAC. Both codes shall be applied to the extent possible. In the event of conflict, the provisions of Section 106 of the UAC shall govern, unless otherwise deemed appropriate by the Building Official or his designee.

II. Compliance. It shall be unlawful for any person, firm, or corporation to use within the City of Las Vegas any electrical wiring, fixture, appliance, or apparatus that does not conform to the requirements of this Code and the UL (or any other approved testing agency with equivalent standards). Upon notice or otherwise, the City Electrical Inspector is authorized to conduct any inspection necessary to ascertain that all electrical wiring, fixtures, appliances, and apparatuses for use, used, or installed within the City comply with the requirements of this Code and the UL (or any other approved testing agency with equivalent standards).

III. Unlawful Installations. If the City Electrical Inspector finds any part of any electric light or power wiring, appliance, apparatus, or fixture in or upon any building in the City of Las Vegas to have been installed without a permit or installed in such a manner to constitute a hazard, the Building Official shall have the right and power to disconnect electrical service and place a seal upon the same, and shall at the same time give written notice of such disconnection to the owner or occupant of the building and the electrical power utility company. After the wiring, fixtures, appliances or apparatus have been put in the

condition required by this Chapter, the seal so placed shall be removed by order of the Building Official. It shall be unlawful for any person to use any current in or through such disconnected wiring, appliance, apparatus, or fixture, or otherwise supply current to such disconnected wiring, fixture, appliance, or apparatus, or to remove, break, or deface any seal so placed.

Section 120-3. PERMITS, CERTIFICATION AND LICENSING

I. Permit Requirements.

A. General. No wiring shall be installed or layed out for any lights, power, heating devices, or any apparatus which generates, transmits, transforms, or utilizes any electricity, including private telephone systems, nor shall any alteration or addition be made in existing wiring without securing a permit therefor; provided, however, that no permit shall be required for service work or changeouts up to the first means of disconnect, in single family dwellings only, of existing air conditioning/heating units which have identical ampacity requirements. Permit applications must describe the proposed work and shall be made in writing by the person, firm or other entity that will do the work. The application must identify the work location by street and house number, and the permit shall be valid only for that location.

B. Drawings. Each application for a permit to install electrical wiring in a single family dwelling or an accessory building (shed, garage, etc.) must have attached thereto a drawing showing the electrical layout, including the wire apparatus. Load calculations must be included if required by the City Electrical Inspector or by the Building Official or his designee. Each application for a permit to install electrical wiring in a structure other than a single family dwelling or an accessory building must have attached thereto drawings showing in detail the electrical layout, including the wire apparatus and load calculations. The City Electrical Inspector may waive drawings for small, insignificant structures or additions.

II. Journeyman Electrician. A Journeyman Electrician is an individual who has demonstrated qualifications in having the skills to perform independent work in the electrical field or to supervise lesser qualified electricians. The individual has taken and passed the Journeyman Electrician examination given by an independent agency accepted by the Building Official. Such examination shall be designed for the purpose of establishing qualifications to perform the work of a Journeyman Electrician. An individual holding a valid, current certificate of Journeyman Electrician qualification from an accepted independent testing agency or from a political subdivision of the State of Nevada within the geographic boundaries of Clark County may be recognized as a Journeyman Electrician.

III. Master Electrician and Qualified Individual.

A. General. A Master Electrician and Qualified Individual (QI) are individuals who have demonstrated competency to lay out, inspect, install and supervise all aspects of electrical work in one or more categories of the field. The term "Master" shall be considered generic to include Master Neon Electricians, Master Electricians, and Master Technicians who were certified under the Joint Board of Electrical Examiners of Clark County program prior to July 1, 1985.

B. Duties.

(1) **Supervision and Inspection.** The Master or QI is responsible to supervise and inspect the work to be performed pursuant to the scope of the permit and the approved plans and verify that said work shall meet all the requirements of this Code, and to ensure that the work is installed in good workmanlike manner. The Master or QI is responsible to the Building Official for conformance with the requirements of this Code and other applicable standards and requirements.

(2) **Plan/Calculation Preparation.** When plans and calculations have been required pursuant to this Code or other building-related code and are not done by an electrical engineer who is responsible for the work, the Master or QI is responsible for the correctness of calculation and design in conformance to the Electrical Code of the City of Las Vegas. This includes all work provided for review by the Building Official prior to issuance of a permit or provided for approval of a change to approved plans. Electrical plans shall be prepared only by one or more of the following: an electrical engineer registered in the State of Nevada, an architect registered in the State of Nevada, a Master, or a QI. Plans prepared by an engineer or architect shall be stamped, dated, and signed by that person. Plans prepared by a Master or a QI must be signed by that person and shall indicate whether the person is a Master or a QI.

(3) **Pretesting Required.** It is the responsibility of the Master or QI to ensure that all required life safety systems provided in any building (i.e., fire alarms, emergency generators, duct detector devices, voice alarm/paging systems, central controls, and other electrical systems) are pretested and in proper working order prior to making inspection requests to the Building Official.

C. Certification. A certification issued by a third-party independent agency in compliance with the following standards and maintained in current standing by renewal of the certification shall be recognized by the Official as meeting the technical requirements inherent in the duties of a Master or QI stated above:

(1) **A Master Electrician, Master Neon Electrician or Master Technician** who was previously tested and certified under the Joint Board of Electrical Examiners of Clark County Program prior to July 1, 1985.

(2) **A Qualified Individual** who, after July 1, 1985, has taken and passed the qualification examination of the State of Nevada Contractor's Board (or their authorized third-party testing agency) for one or more categories of electrical contracting.

The City of Las Vegas accepts a QI who has been tested and certified by the State of Nevada Contractor's Board as being competent to perform duties equivalent to any or all functions of Masters identified in the Electrical Code of the City of Las Vegas to the extent of this qualification. This means that a Qualified Individual must be verified as competent in the specific area of electrical work related to the scope of work requested for the permit.

D. Renewal of Certificates. It is the duty of every Master and QI to maintain Master and QI certifications in a current active status in accordance with the third-party testing agency accepted by the State of Nevada Contractor's Board and to renew as required.

E. Currency of State Certification. A Master or QI found not to meet the qualification standard of the State of Nevada Contractor's Board for a Qualified Individual in any electrical contractor's license classification, or whose certification has been revoked, shall not be recognized as certified, until that person again meets the standards of certification by re-examination.

F. Multiple Affiliations. In order for a Master or QI to act as such on behalf of more than one electrical contracting business, the Master or QI must have supervisory responsibility for, and at least a 50% ownership interest in, each such business.

IV. Contractors' Responsibilities.

A. Business License. Any person engaged in the business of installing electrical wires (including, but not limited to power, signal, or control fixtures, appliances, apparatus, raceways or conduits, or any parts thereof), which utilize energy in any form and in connection with which electrical energy is used for any purpose whatsoever in the City of Las Vegas shall first secure the appropriate contractor's license from the State Contractor's Board and a contractor's business license from the City's Department of Finance and Business Services.

B. Competent Employees. No person, firm or corporation shall engage in the installation, alteration, construction of any electrical work, wiring devices, fixtures, appliances or equipment inside or outside of any building either by himself or through his agents or employees unless he holds an appropriate category of business license, and he or one of his employees holds an appropriate Master or QI certification or its equivalent, issued by the County. The contractor is responsible to hire competent employees to perform all electrical work.

(1) Master or QI Required. It is the contractor's responsibility to employ at least one Master or QI of the appropriate category for permits requested to perform the duties of a Master or QI. In addition, the contractor shall ensure that all employees engaged in electrical work are qualified to perform that work. Upon written request by the City Electrical Inspector or other representatives of the Building Official, the contractor shall provide a written list of Masters, QI, and other employees performing electrical work with their respective certification qualification control numbers and issuing agency, by each job or permit in effect.

(2) Supervision on Site. Every building construction job site, at which there is electrical work being performed under a permitted scope of work, shall have one or more of the following persons present during work hours in a supervisory capacity for the permitted work:

- (a)** A Master or QI, or,
- (b)** A Journeyman electrician.

(3) **Duties.** Each electrical contractor, whether he possesses a valid appropriate Master or QI certification or employs a person possessing either the Master or QI certification shall at all times be responsible for the proper supervision and inspection of the work to be performed pursuant to the scope of the electrical permit(s) issued to him and that said work shall meet all the requirements of the Electrical and Building Codes of the City of Las Vegas, and be installed in a workmanlike manner.

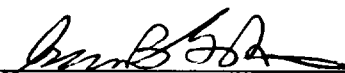
C. Exception. The requirements of this Subsection IV do not apply to work done under a permit issued to an owner/builder for a work in or on a one or two family dwelling used exclusively for living purposes, including any customary and incidental accessory structure, if the permittee:

- (1) Is the bona fide owner of the premises on which the structures are located; and
- (2) Occupies or demonstrates an intention to occupy those premises for living purposes.


Section 120-4. Violation and Penalties. It shall be unlawful for any person, firm or corporation to erect, install, alter, repair, relocate, add to, replace, use, or maintain electrical installation or electrical fixtures in this jurisdiction, or cause the same to be done, contrary to or in violation of any of the provisions of this Code, as amended. Maintenance of an electrical installation or electrical fixtures which was unlawful at the time it was installed and which would be unlawful under this Code if installed after the effective date of this Code or any amendment thereto, shall constitute a continuing violation of this Code.

PASSED, ADOPTED and APPROVED this _____ day of _____, 2002.

APPROVED:

By  _____
OSCAR B. GOODMAN, Mayor

ATTEST:


BARBARA JO RONEMUS, City Clerk

**SOUTHERN NEVADA AMENDMENTS TO THE
2002 NATIONAL ELECTRICAL CODE**

Preface

This document comprises the Southern Nevada Amendments to the 2002 National Electrical Code as published by the National Fire Protection Association. It was developed by the jurisdictions listed on the cover page as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternate has been approved and its use authorized by the Building Official (Authority Having Jurisdiction). This document is available to be adopted as code by any jurisdiction without permission or approval from the jurisdictions listed.

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Article 80

80 Administration and Enforcement.

Delete article 80 in its entirety

Chapter 1 General

110.12 Mechanical Execution of Work.

Add a new Subsection (D) to Article 110.12 to read as follows:

(D) Abandoned Conductors and Cables. No electrical conductors or cables shall be abandoned in place. Such conductors or cables shall be removed from the building or structure back to the panel board unless otherwise approved by the Building Official or designated representative based upon consideration of safety and combustibility.

Add a new Subsection (E) to Article 110.12 to read as follows:

(E) Old, Used or Damaged Material and Equipment. Old, used or damaged materials or equipment shall not be installed or used in any work without the prior approval of the Building Official or designated representative.

Chapter 2 Wiring and Protection

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

Add a new Subsection (4) and Exception to Article 210.8(B) to read as follows:

(4) Outdoors.

Exception to (4): Receptacles dedicated for appliances.

Add a new Subsection (C) to Article 210.8 to read as follows:

(C) All Occupancies.

- (1) All 125-volt, single-phase, 15-and 20-ampere receptacles installed within 1.8 m (6 ft) of sinks or basins shall have ground-fault circuit-interrupter protection for personnel.

Exception: Receptacles dedicated for appliances.

- (2) All luminaires (lighting fixtures) permitted to be installed within the zone defined in Article 410.4(D) shall be ground-fault circuit-interrupter protected.

210.12 Arc-Fault Circuit-Interrupter Protection.

Add the following sentence to the end of Article 210.12(B)

Smoke detectors shall not be included in arc-fault circuit-interrupter protection of dwelling unit bedroom branch circuits.

210.23 Permissible Loads.

Add a new Subsection (E) to Article 210.23 to read as follows:

(E) Dwelling Branch Circuits.

- (1) The maximum number of lighting outlets on a 15-ampere, 125-volt (nominal) lighting fixture circuit shall be twelve (12) and shall not contain general purpose outlets.

Exception No 1: Dedicated branch circuits feeding only IC rated recessed fixtures may use Article 220.3(B)(4) for maximum number of lighting outlets.

Exception No 2: In branch circuits serving smoke detectors the smoke detectors outlets need not be counted with the other lighting outlets.

- (2) The maximum number of outlets on a 20-ampere, 125-volt (nominal) circuit used either exclusively for receptacles, for lighting outlets or for any combination of receptacles and lighting outlets shall be twelve (12).

Exception No 1: Dedicated branch circuits feeding only IC rated recessed fixtures may use Article 220.3(B)(4) for maximum number of lighting outlets.

Exception No 2: In branch circuits serving smoke detectors the smoke detectors outlets need not be counted with the other lighting outlets.

- (3) No more than four (4) duplex receptacle outlets serving the required counter top receptacles shall be installed on any small appliance branch circuit.

Exception: Receptacles installed to provide power for electric ignition systems or clock timers for gas-fired ranges, ovens or counter-mounted cooking units.

- (4) The following fastened-in-place appliances are required to have a separate minimum 20-ampere circuit: dishwasher, trash compactor, microwave oven, range hood, clothes washer and hydromassage bathtub. The clothes washer circuit may serve one (1) additional outlet in the laundry area.

210.52 Dwelling Unit Receptacle Outlets.

Add the following to the end of Subsection (C)(2) of Article 210.52:

This outlet shall serve the first 1.22 m (4 ft), of counter space, measured horizontally, in the long dimension. An additional outlet shall be required to serve each additional 1.22 m (4 ft) or fraction thereof, of counter space in the long dimension.

Add the following to the end of Subsection (C)(3) of Article 210.52:

This outlet shall serve the first 1.22 m (4 ft), of counter space, measured horizontally, in the long dimension. An additional outlet shall be required to serve each additional 1.22 m (4 ft) or fraction thereof, of counter space in the long dimension.

Add a new Subsection (I) to Article 210.52 to read as follows:

- (I) **Stairwell Landings.** Stairwell landings, which are 3.66 m (12 ft) or more from a receptacle outlet, shall have at least one receptacle.

210.62 Show Windows.

Add the following to the end of 210.62 to read as follows:

The receptacle outlet shall be located within 450mm (18 inches) of the top of the show window. Show windows that exceed 3.0 m (10 feet) in height shall require a receptacle at the first available structural member above the height of 3.0 m (10 feet) measured from the floor.

210.70 Lighting Outlets Required.

Add the following sentence at the end of Article 210.70(A)(1):

Unless prohibited by structural design, this wall switch shall be located at the point of entry, and shall not be located behind an active door in the fully open position.

Add a new Subsection (A)(4) to Article 210.70 to read as follows:

(4) Closet. All walk-in closets or storage areas of 1.86 sq. m (20 square feet) or more in floor area shall contain a light fixture controlled by a wall switch.

Add a new Subsection (D) to Article 210.70 to read as follows:

(D) Mini Storage. All mini storage units shall have illumination as required in the Building Code for egress illumination.

220.5 Calculated Loads.

Add a new Article 220.5 to read as follows:

220.5 Calculated Loads. The calculated load of a new single family dwelling service shall allow a minimum of 20-amperes for future expansion. These 20-amperes shall be added to the total net computed load.

220.31 Optional Calculations for Additional Loads in Existing Dwelling Unit.

Deleted

220.32 Optional Calculation – Multifamily Dwelling.

Deleted

220.33 Optional Calculation – Two Dwelling Units.

Deleted

225.32 Location.

Delete "either inside or" from the first sentence of Article 225.32.

Add new Exception Nos. 5 and 6 to read as follows:

Exception No. 5: For accessory buildings to single family dwellings, the disconnecting means may be installed either inside or outside of the accessory structure.

Exception No. 6: For all buildings or structures (other than accessory buildings to single family dwellings) the disconnecting means shall be installed as described in Article 230.70 of these amendments.

230.11 Location of Customer Owned Service Lateral or Drop.

Add a new Article 230.11 to read as follows:

230.11 Location of Customer Owned Service Lateral or Drop. All conductors shall traverse only the property to be served except through recorded power easements.

230.70 General.

Delete Article 230.70 and add a new Article 230.70 to read as follows:

230.70 General. Means shall be provided to disconnect all ungrounded service entrance conductors to a building or structure.

(A) Location. The service disconnecting means shall be installed in accordance with 230.70(A)(1), (2) (3) (4) and (5).

(1) Exterior of the Building. The service disconnecting means shall be installed in a readily accessible location on the exterior of the building or structure.

Exception: A fire pump and its associated electrical equipment

(2) Electrical Equipment Room. : The service disconnecting means may be installed within a dedicated electrical equipment room with a readily accessible direct access on the exterior of a building or structure. The service disconnecting means shall be located adjacent to the exterior door. Such rooms shall be of a minimum of one (1) hour fire resistive construction and shall have approved Fire Department access.

FPN: A recessed 3200 series Knox Box may serve as the approved Fire Department access in some jurisdictions.

(3) Bathrooms. Service disconnecting means shall not be installed in bathrooms.

(4) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1) and (2).

(5) Emergency Systems, Information Technology Equipment and Uninterruptible Power Supplies (UPS). Emergency Systems driven by prime movers and UPS Systems shall have separate disconnecting means with separate identification. Information Technology Equipment rooms complying with Article 645.2 shall be permitted to have their disconnecting means installed per article 645.10 and 645.11 if identified at the same location as the Main Electrical Disconnect.

(B) Marking. Each service disconnecting means and the exterior door providing access to the disconnecting means located in an approved electrical room shall be permanently marked with a sign(s). Each sign shall be a minimum 0.093sq.m (1 sq.foot), colored yellow with 25.4mm (1 inch) high, 6.35 mm (¼ inch) stroke raised or engraved letters and/or numbers indicating the address or unit it serves and be identified as the " Main Electrical Disconnect" and/or "Main Electrical Disconnect Inside." Emergency Systems disconnects shall be permanently marked with sign(s), identified as "Emergency Electrical Disconnect" and/or Main Emergency Electrical Disconnect Inside."

(C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the requirements of Articles 500 through 517.

240.6 Standard Ampere Ratings.

Delete "not meeting the requirements of 240.6(C)," from Subsection (B) of Article 240.6.

Delete Subsection (C) from Article 240.6.

240.24 Location in or on Premises.

Delete "such as in clothes closets" from Subsection (D) of Article 240.24.

250.50 Grounding Electrode System.

Add a new paragraph at the end of Article 250.50 to read as follows:

The concrete-encased electrode described in Article 250.52(A)(3) shall be the main grounding electrode for new buildings and structures that are supplied by electrical power.

250.52 Grounding Electrodes.

Delete Subsections (A)(5) and (A)(6) of Article 250.52 and add a new Subsection (A)(5) to read as follows:

(5) Rod Electrodes. Rod electrodes shall not be less than 2.44 m (8 ft) in length and shall consist of the following materials and installed according to Article 250.53 (G). Electrodes shall be copper clad or their equivalent and shall be not less than 15.875 mm (5/8 inch) in diameter, or listed non-ferrous rods or their equivalent and not less than 12.7 mm (½ inch) in diameter.

250.53 Grounding Electrode System Installation.

Delete ", Pipe and Plate " from the title and both sentences in Subsection (A) of Article 250.53.

Delete "or (A)(6)" from the first sentence in Subsection (B) of Article 250.53.

Delete "and Pipe " from the title of Subsection (G) of Article 250.53.

Delete Subsection (H) of 250.53

250.56 Resistance of Rod, Pipe, and Plate Electrodes

Delete "Pipe, and Plate" from the title and in both sentences in Article 250.56.

250.118 Types of Equipment Grounding Conductors.

Delete Subsection (5), (6) (7) and (9) of Article 250.118.

250.120 Equipment Grounding Conductor Installation.

Add a new Subsection (D) to Article 250.120 to read as follows:

(D) Equipment Grounding Conductor. All raceways installed on roofs with a slope less than 102 mm per 306 mm (4 inches per 12 inches) shall contain an equipment grounding conductor sized per Table 250.122 installed with the circuit conductors.

Exception No. 1: Low voltage, communication and similar type systems unless required elsewhere in the Code.

Exception No. 2: As permitted by Article 250.86 for short sections of metal enclosures or raceways.

Chapter 3 Wiring Methods and Materials

300.1 Scope.

Add a new Subsection (D) to Article 300.1 to read as follows:

(D) Wiring of Buildings.

(1). Wiring installed in the construction of buildings and structures shall be contained in a raceway or cable tray system.

Exception No. 1: MI cable, MC cable and AC cable. Articles 332, 330, & 320 respectively.

Exception No. 2: Special alarm sensing cable.

Exception No. 3: Where NM, NMC or NMS cable is permitted by this code. Article 334.

Exception No. 4: Low voltage wiring when installed exposed on walls and ceilings. Limited to Articles 725, 770, 800, 810, 820 and 830.

Exception No. 5: Any listed under-carpet system. Article 324.

Exception No. 6: Per Article 645.

Exception No. 7: Listed Neon Cable Assemblies providing the equivalent mechanical protection of Liquid Tight Flexible Conduit.

(2). Raceway systems for buildings and structures of Type I or Type II A construction as defined in the Building Code shall be of metallic non-combustible materials and cable trays shall be of the fully enclosed type.

Exception No. 1: Non-metallic raceways encased in concrete, or masonry, or underground or solid grouted building components that are in compliance with the Building Code.

Exception No. 2: Liquid-tight flexible conduit in lengths of 1.8 m (6 ft) or less which comply with NEC Articles 350 and 356.

310.5 Minimum Size of Conductors.

Add a new sentence to Article 310.5 to read as follows:

Aluminum and copper clad aluminum conductors smaller than No. 6 AWG shall not be used.

314.24 Depth of Outlet Boxes.

Add the following to the end of Article 314.24:

All outlet, switch or junction boxes less than 200 mm (8 inches) in any dimension, shall have no more than any combination of two extension boxes and/or plaster rings.

Exception: Listed unit or assembly.

334.10 Uses Permitted.

Delete Subsection (3) of Article 334.10 and add a new Subsection (3) to read as follows:

- (3). Group R-1, R-2, R-3 and R-4 occupancies permitted to be Types III, IV, and V construction as defined in the Building Code and in buildings with accessory uses, such as : pool houses, recreation buildings, guard houses, garages, laundry rooms and offices except as prohibited in Article 334.12.

Conversions from R-3 to B occupancy as defined by the Building Code, Type NM and NMC cables may remain, provided the equipment grounding conductors are sized in accordance with Table 250.122 and are installed in accordance with this Code, or meet the requirements of Article 406.3(D).

334.12 Uses Not Permitted.

Add a new Subsection (11) to Article 334.12(A) to read as follows:

- (11) In Type I or Type II construction as defined in the Building Code.

352.10 Uses Permitted.

Add a new Subsection (I) to Article 352.10 to read as follows:

- (I) **Exposed to Direct Sunlight.** Rigid non-metallic conduit shall be a minimum Schedule 80 and identified for such use.

358.12 Uses Not Permitted.

Add new Subsection (6), (7) and (8) to Article 358.12 to read as follows:

- (7) In concrete or masonry in contact with earth.
- (8) Underground.
- (9) In earth fills.

Chapter 4 Equipment for General Use

408.15 Number of Overcurrent Devices on One Panel Board.

Add the following paragraph to the end of Article 408.15 to read as follows:

Each panel board or load center installed in a new one and two-family dwelling shall have a capacity for a minimum of two (2) additional full-size single pole overcurrent devices on adjacent opposite poles for expansion.

410.4 Fixtures in Specific Locations.

Add the following sentence to the end of Subsection (D) of Article 410.4:

All luminaires (lighting fixtures) permitted to be installed in this zone shall be ground-fault circuit-interrupter protected.

Chapter 5 Special Occupancies

514.11 Circuit Disconnects.

Add the following to the end of Subsection (A) of Article 514.11:

The switch shall be a momentary contact type. The disconnect station sign shall be 0.093 sq. m (1 ft square), colored yellow and have black, 25.4 mm (1 inch) high, 6.35 mm (¼ inch) stroke permanent lettering describing it as "Emergency Pump Shutoff".

Delete Subsection (B) in its entirety.

Delete the words "Unattended Self-Service" from the title of Subsection (C).

550.30 Distribution System.

Add the following to the end of Article 550.30:

Electrical service to all mobile home parks and to all lots (sites, spaces, etc.) in mobile home parks, shall be provided by the franchised serving utility unless approved otherwise by the Building Official or designated representative.

Chapter 6 Special Equipment

600.9 Location.

Add a new sentence to the end of (B) to read:

(B) All electrical wiring and neon tubing shall be completely enclosed within an approved material or barrier to prevent physical contact up to a height of 2.44 m (8 ft) above finished grade or floor level.

Chapter 7 Special Conditions

700.9 Wiring, Emergency System.

Change 1000 person to 300 persons and change 23 m (75 ft) to 17 m (55 ft) in Subsection (D) of Article 700.9.

Change "buildings" to "spaces" in Subsection (D)(1)(1) of Article 700.9.

Change 700.9(D)(2) Feeder-Circuit Equipment to read:

Equipment for feeder circuits (including transfer switches, transformers, panelboards and switchboards) shall be located in dedicated spaces either:

(1) Fully protected by approved automatic fire suppression system (including sprinklers, carbon dioxide systems) and be a minimum one-hour fire-resistive construction, or

(2) Separated from the remainder of the building by a minimum of two-hour fire-resistive construction when an approved automatic fire suppression system is not installed.

Feeder-circuit equipment installed in a space that is protected by an approved automatic fire sprinkler system shall be suitable for outdoor use.

Exception: System components described in Article 701 may occupy the same dedicated room as emergency systems.

700.12 General Requirements.

Change 1000 person to 300 persons and change 23 m (75 ft) to 17 m (55 ft) in the forth paragraph of 700.12

Add a new Subsection (B)(7) to Article 700.12 to read as follows:

(7) The emergency generator shall not be located more than 17 m (55 ft) above the lowest level of fire department vehicle access. The generator set shall be located in a service room solely dedicated to the Emergency Power Supply System. The generator set shall be located in dedicated space either:

(1) Fully protected by approved automatic fire suppression system (including sprinklers, carbon dioxide systems) and be a minimum one-hour fire-resistive construction, or

(2) Separated from the remainder of the building by a minimum of two-hour fire-resistive construction when an approved automatic fire suppression system is not installed.

Exception No. 1: A generator set located a minimum of 1.5 m (5 ft) from the building(s) shall be enclosed within an approved structure of one-hour fire-resistive construction.

Exception No. 2: A generator set located a minimum of 6 m (20 ft) from the building(s) shall be within an approved enclosure.

FPN: It is not the intent of these exceptions to require a roofed structure.

700.16 Emergency Illumination.

Add the following to the end of the first sentence of Article 700.16:

Electrical rooms, fire control rooms, fire pump rooms, PBX rooms, public restrooms and generator rooms shall require emergency illumination.

Exception: Public restrooms with a floor area of less than 5.9 square meters (64 square feet) shall not require emergency illumination.

701.10 Wiring Legally Required Standby Systems.

Add a new Subsection (A) to Article 701.10 to read as follows:

(A) Fire Protection. Equipment for feeder circuits (including automatic transfer switches, transformers, switchboards and panelboards) shall be located in a dedicated space either:

- (1) Fully protected by approved automatic fire suppression system (including sprinklers, carbon dioxide systems) and be a minimum one-hour fire-resistive construction, or
- (2) Separated from the remainder of the building by a minimum of two-hour fire-resistive construction when an approved automatic fire suppression system is not installed.

Exception No. 1 Transfer equipment located a minimum of 1.5 m (5 ft) from the building(s) shall be enclosed within an approved structure of one-hour fire-resistive construction.

Exception No. 2: Transfer equipment located a minimum of 6 m (20 ft) from the building(s) shall be within an approved enclosure.

Exception No. 3: Legally Required Standby Systems may occupy the same dedicated room as Emergency Systems.

FPN: It is not the intent of these exceptions to require a roofed structure.

701.11 Sources of Power.

Add a new Subsection (G) to Article 701.11 to read as follows:

(G) Location. The legally required standby power source shall be located in a dedicated space either:

- (1) Fully protected by approved automatic fire suppression system (including sprinklers, carbon dioxide systems) and be a minimum one-hour fire-resistive construction, or
- (2) Separated from the remainder of the building by a minimum of two-hour fire-resistive construction when an approved automatic fire suppression system is not installed.

Exception No. 1: A generator set located a minimum of 1.5 m (5 ft) from the building(s) shall be enclosed within an approved structure of one-hour fire-resistive construction.

Exception No. 2: A generator set located a minimum of 6 m (20 ft) from the building(s) shall be within an approved enclosure.

FPN: It is not the intent of these exceptions to require a roofed structure.

Notes:

AFFP DISTRICT COURT
Clark County, Nevada

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2002 OCT 29 A 11: 56

STATE OF NEVADA)
COUNTY OF CLARK) SS:

Donna Stark, being 1st duly sworn, deposes and says:

That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for,

LV CITY CLERK
2465887

2296311LV

was continuously published in said Las Vegas Review Journal and/or Las Vegas Sun in 1 edition(s) of said newspaper issued from 10/24/2002 to 10/24/2002, on the following days: OCT. 24, 2002

Signed: _____

Donna Stark

SUBSCRIBED AND SWORN BEFORE ME THIS THE _____

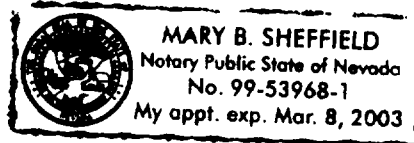
25

day of _____ 2002

October

Mary B. Sheffield

Notary Public



BILL NO. 2002-107

AN ORDINANCE TO ADOPT THE 2002 EDITION OF THE NATIONAL ELECTRICAL CODE, TOGETHER WITH AMENDMENTS AND SUPPLEMENTARY MATERIAL, AND TO PROVIDE FOR OTHER RELATED MATTERS.

Proposed by: Paul K. Wilkins, Director of Building and Safety
Summary: Adopts the 2002 Edition of the National Electrical Code, together with amendments and supplementary material.

At the City Council meeting of OCTOBER 2, 2002, BILL NO. 2002-107 WAS READ BY TITLE AND REFERRED TO A RECOMMENDING COMMITTEE

COPIES OF THE COMPLETE ORDINANCE ARE AVAILABLE FOR PUBLIC INFORMATION IN THE OFFICE OF THE CITY CLERK, 1ST FLOOR, 400 STEWART AVENUE, LAS VEGAS, NEVADA.
PUB: October 24, 2002
LV Review-Journal

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2002 NOV 15 P 12: 31

AFFP DISTRICT COURT
Clark County, Nevada

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:

Donna Stark, being 1st duly sworn, deposes and says:

That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for,

LV CITY CLERK
2493372

2296311LV

was continuously published in said Las Vegas Review Journal and/or Las Vegas Sun in 1 edition(s) of said newspaper issued from 11/09/2002 to 11/09/2002, on the following days: NOV. 9, 2002

BILL NO. 2002-107
ORDINANCE NO. 5527

AN ORDINANCE TO ADOPT THE 2002 EDITION OF THE NATIONAL ELECTRICAL CODE, TOGETHER WITH AMENDMENTS AND SUPPLEMENTARY MATERIAL, AND TO PROVIDE FOR OTHER RELATED MATTERS.

Proposed by: Paul K. Wilkins, Director of Building and Safety
Summary: Adopts the 2002 Edition of the National Electrical Code, together with amendments and supplementary material.

The above and foregoing ordinance was first proposed and read by title to the City Council on the 2nd day of October, 2002, and referred to a committee for recommendation; thereafter the committee reported favorably on said ordinance on the 6th day of November, 2002, which was a regular meeting of said City Council; and that at said regular meeting the proposed ordinance was read by title to the City Council as first introduced and adopted by the following vote:

VOTING "AYE": Mayor Goodman and Councilmembers Reese, M. McDonald, L. Brown, Weekly, and Mack
VOTING "NAY": NONE
EXCUSED: L.B. McDonald

COPIES OF THE COMPLETE ORDINANCE ARE AVAILABLE FOR PUBLIC INFORMATION IN THE OFFICE OF THE CITY CLERK, 1ST FLOOR, 400 STEWART AVENUE, LAS VEGAS, NEVADA.
PUB: November 9, 2002
LV Review-Journal

Signed: Donna Stark

SUBSCRIBED AND SWORN BEFORE ME THIS THE 11

day of November 2002

Mary B. Sheffield
Notary Public

